SCOPE OF CLAIMS

1. A two-side multiple lamp online inner quality inspection system having transport mean for conveying objects of inspection one by one by placing each of the objects on a receiving tray, in which a transmission light passage is formed to vertically penetrate the center part thereof and a light blocking receiving seat is arranged at the upper part of said transmission light passage in an annular shape to elastically engage the object in a tight contact therewith; light projecting means for projecting beams of light on the object by using a plurality of light projecting lamps at a predetermined position of said transport means; light receiving means arranged to converge and receive transmission light coming through the inside of the object of inspection with the beams of light projected; and means for making spectral analysis on said transmission light received, said system being characterized in that:

said light projecting means has a large number of light projecting lamps arranged on both the right and left sides of a transport path to concentratedly project on the object on said receiving tray at an inspecting position from different positions and at different angles in such a way as to cover a wide area of said object ranging from an obliquely front part to an obliquely rear part on each of the right and left sides of the object; and said light receiving means has a condenser lens arranged below said receiving tray to converge the

transmission light coming through said transmission light passage which vertical penetrate said receiving tray and a spectrometer arranged in combination with said condenser lens through a combining mount part which is arranged to lead the converged transmission light to said spectrometer.

2. A system according to claim 1, wherein said combining mount part of said light receiving means is arranged to have the light entrance plane of an optical fiber at the focal point of said condenser lens and to lead the converged transmission light to said spectrometer through said optical fiber.

3. A system according to claim 1, wherein said combining mount part of said light receiving means is arranged to have the focal point of said condenser lens coincide with an entrance slit of said spectrometer.

4. A system according to claim 1, 2 or 3, wherein the quantity of light coming into said spectrometer is arranged to be reducible by arranging means for selectively inserting light reducing filters of varied kinds in a light receiving optical path provided at said combining mount part between said condenser lens and said spectrometer.

5. A system according to any of claims 1 to 4, wherein a transmission light shutter is arranged in said light receiving optical path of said combining mount part between said condenser lens and said spectrometer to block the passing of

the transmission light every time one receiving tray passes with the object of inspection placed thereon; and said shutter is actuated to open when the transmission light passage of said receiving tray is on the visual field of said condenser lens and to close when the transmission light passage comes outside of the visual field, so that no light is allowed to come into said spectrometer when no inspecting operation is performed.

6. A system according to any of claims 1 to 5, wherein said condenser lens is provided with a lens hood which is arranged to secure a visual field on the object side of said condenser lens and a light receiving window which is made of transparent glass and disposed on the front side of said lens hood to form a dust-proof structure; and dust-proof means is arranged on the outside of said transparent glass to blow air from the periphery thereof toward the center of said light receiving window.

7. A system according to any of claims 1 to 6, further comprising a white-level calibrating plate moving mechanism which is arranged to retractably move a white level calibrating plate forward to cover the receiving seat of said receiving tray from outside of the transport path of said receiving tray when no inspecting object is on said receiving tray at the inspecting position where said light projecting means and said light receiving means are disposed, and wherein calibration can be automatically carried out by moving said white level calibrating plate forward to cover said receiving seat of said

receiving tray when a predetermined number of empty receiving trays pass the inspecting position.

8. A system according to any of claims 1 to 7, further comprising means for increasing or decreasing the quantity of light projected by said large number of light projecting lamps of said projecting means by increasing or decreasing a number of light projecting lamps to be lighted up among said large number of light projecting lamps according to the size of the inspecting object or the light transmissible degree of the inspecting object which vary with the kind of the inspecting object.

9. A system according to any of claims 1 to 8, further comprising a light blocking device which is arranged in front of said large number of light projecting lamps of said light projecting means to block light from being projected on the inspecting object.